

IN THE CLAIMS

Please amend the claims to read as follows:

Listing of Claims

1. (Currently Amended) An OFDM signal collision position detection apparatus that detects collision positions of OFDM signals transmitted from a plurality of cells, comprising:

a pilot symbol ~~known-signal~~ measuring section that measures reception power of a pilot symbol ~~known-signal~~;

a data signal measuring section that measures reception power of a data signal;

a data signal prediction section that predicts reception power of the data signal based on the measured reception power of the pilot symbol ~~known-signal~~;

a power comparison section that compares the reception power of the data signal predicted by said data signal prediction section with the reception power of the data signal measured by said data signal measuring section for each subcarrier; and

a collision position detection section that detects positions of data symbols colliding with each other between a plurality of cells by detecting positions where there is a large variation of said measured reception power of the data signal with respect to said predicted reception power of the data signal based on the comparison result obtained by said power comparison section.

2. (Original) The OFDM signal collision position detection apparatus according to claim 1, wherein said collision position detection section detects a collision when said measured reception power of the data signal is greater than a first threshold in a positive direction with respect to said

predicted reception power of the data signal or smaller than a second threshold in a negative direction.

3. (Currently Amended) An OFDM reception apparatus that receives and demodulates an OFDM signal, comprising:

a pilot symbol ~~known-signal~~ measuring section that measures reception power of a pilot symbol ~~known-signal~~;

a data signal measuring section that measures reception power of a data signal;

a data signal prediction section that predicts reception power of the data signal based on the measured reception power of the pilot symbol ~~known-signal~~;

a power comparison section that compares the reception power of the data signal predicted by said data signal prediction section with the reception power of the data signal measured by said data signal measuring section for each subcarrier;

a collision position detection section that detects positions of data symbols colliding with each other between a plurality of cells by detecting positions where there is a large variation of said measured reception power of the data signal with respect to said predicted reception power of the data signal based on the comparison result obtained by said power comparison section; and

an error correcting decoding section that applies error correcting decoding processing to the received OFDM signal by reducing likelihood of data symbols at positions at which said collision position detection section has detected the collision.

4. (Original) The OFDM reception apparatus according to claim 3, wherein said collision position detection section uses a threshold for detecting a position where said variation is large, and said OFDM reception apparatus further comprises:
an error rate calculation section that calculates an error rate of decoded data obtained by said error correcting decoding section; and
a threshold control section that changes said threshold at said collision position detection section according to the error rate calculation result.

5. (Original) The OFDM reception apparatus according to claim 3, wherein said collision position detection section uses a threshold in detecting positions where said variation is large, and said OFDM reception apparatus further comprises:
a reception quality detection section that detects reception quality of the received OFDM signal; and
a table that stores data of thresholds associated with the reception quality and outputs said threshold data corresponding to said detected reception quality to said collision position detection section.

6. (Original) The OFDM reception apparatus according to claim 3, wherein said collision position detection section uses a threshold in detecting positions where said variation is large, and said OFDM reception apparatus further comprises:
an error rate calculation section that calculates an error rate of decoded data obtained from said error correcting decoding section;

a reception quality detection section that detects reception quality of the received OFDM signal;

a threshold control section that controls a threshold in said collision position detection section; and

a table creation section that creates a lookup table showing a relationship between said threshold and an error rate when the threshold controlled by said threshold control section is used for each reception quality,

wherein said threshold control section sets an optimal threshold in said collision position detection section with reference to said lookup table.

7. (Original) An OFDM signal collision position detection method comprising:

a step of predicting reception power of a data signal from reception power of a known signal; and

a step of comparing reception power of said predicted data signal with the actually measured reception power of the data signal for each subcarrier and every burst period and regarding, when the reception power of the data signal is changed from the reception power predicted from the reception power of the known signal, the data signal as being involved in a collision between a plurality of cells and thereby detecting positions of data symbols colliding with each other between a plurality of cells.

8. (Original) An OFDM reception method, comprising:

a step of predicting reception power of a data signal from reception power of a known signal;

a step of comparing reception power of said predicted data signal with the actually measured reception power of the data signal for each subcarrier and every burst period and regarding, when the reception power of the data signal is changed from the reception power predicted from the reception power of the known signal, the data signal as being involved in a collision between a plurality of cells and thereby detecting positions of data symbols colliding with each other between a plurality of cells; and

a step of applying error correcting decoding processing by reducing likelihood of data symbols at positions where the collision is detected.